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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,577

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,577	<b>Applicant(s)</b> HEMBD, CHRISTIAN	
	<b>Examiner</b> Arnel C. Lavarias	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 4/30/09, 4/22/08, 11/9/06, 12/27/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) 15-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14 and 22-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/22/08, 11/9/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group VI (Claims 22-26) in the reply filed on 4/30/09 is acknowledged.
2. Claims 15-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/30/09.

### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

4. The originally filed drawings were received on 12/27/05. These drawings are objected to for the following reason(s) as set forth below.
5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "further correcting device which is arranged at least approximately in a field plane of the projection objective" (See Claim 25) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

6. The attempt to incorporate subject matter into this application by reference to German patent application DE 103 28 938.0 is ineffective because, as per MPEP 608.01(p), an incorporation by reference statement added after an application’s filing date is not effective because no new matter can be added to an application after its filing date. For the incorporation by reference to be effective as a proper safeguard against the omission of a portion of a prior application for which priority is claimed under 35 U.S.C. 119(a)-

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(d) or (f), or for which benefit is claimed under 35 U.S.C. 119(e) or 120, the incorporation by reference statement must be filed at the time of filing of the later-filed application.

7. The incorporation by reference will not be effective until correction is made to comply with 37 CFR 1.57(b), (c), or (d). If the incorporated material is relied upon to meet any outstanding objection, rejection, or other requirement imposed by the Office, the correction must be made within any time period set by the Office for responding to the objection, rejection, or other requirement for the incorporation to be effective. Compliance will not be held in abeyance with respect to responding to the objection, rejection, or other requirement for the incorporation to be effective. In no case may the correction be made later than the close of prosecution as defined in 37 CFR 1.114(b), or abandonment of the application, whichever occurs earlier.

Any correction inserting material by amendment that was previously incorporated by reference must be accompanied by a statement that the material being inserted is the material incorporated by reference and the amendment contains no new matter. 37 CFR 1.57(f).

8. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. *The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.* The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. *It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.*

9. The abstract of the disclosure is objected to because of the following informalities:

Abstract, line 1- 'Disclosed is a' should read 'A'

Abstract, line 2- 'Said corrective device comprises' should read 'The corrective device includes'.

Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

10. Claims 14, 22-26 are objected to because of the following informalities:

Claim 14 recites the limitation "the polarization distribution" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the cross section" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "the arrangement" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the correcting device" in line 4. It is not certain which correcting device is being referred to here, i.e. the correcting device of Claim 14 or the further correcting device recited in Claim 25, line 2. For purposes of examination, this limitation has been taken to refer to the correcting device already recited in Claim 14. In addition, Claim 25 recites various redundant limitations, such as 'a correcting member', 'a first birefringent correcting element', 'a second correcting member', 'the arrangement',

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‘the first and second thicknesses and birefringent properties’, etc, which the correcting device already has as per Claim 14.

Similarly, Claim 26 recites the limitation “the correcting device” in line 4. It is not certain which correcting device is being referred to here, i.e. the correcting device of Claim 14 or the further correcting device recited in Claim 26, line 2. For purposes of examination, this limitation has been taken to refer to the correcting device already recited in Claim 14. In addition, Claim 26 recites various redundant limitations, such as ‘a correcting member’, ‘a first birefringent correcting element’, ‘a second correcting member’, ‘the arrangement’, ‘the first and second thicknesses and birefringent properties’, etc, which the correcting device already has as per Claim 14.

Claims 22-26 are dependent on Claim 14, and hence inherit the deficiencies of Claim 14.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 14, 22-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites the limitation “... at least one of the first and second surfaces...”. Previously recited in Claim 14 are “two substantially parallel first surfaces” (lines 5-6) and “two substantially parallel second surfaces” (lines 9-10). It is not clear from the

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limitations above as to how many surfaces (1, 2, or all 4) are being referred to with respect to 'at least one', since 'first surfaces' appears to refer to the pair of surfaces from the first correcting element and 'second surfaces' appears to refer to the pair of surfaces from the second correcting element. Further, according to Figures 3-4, at a minimum, two surfaces, and not one surface, must be reprocessed for the creation of local thickness variations.

Similarly, each of Claims 25-26 recites the limitation "... at least one of the first and second surfaces...". Previously recited in each of Claims 25-26 are "two substantially parallel first surfaces" and "two substantially parallel second surfaces". It is not clear from the limitations above as to how many surfaces (1, 2, or all 4) are being referred to with respect to 'at least one', since 'first surfaces' appears to refer to the pair of surfaces from the first correcting element and 'second surfaces' appears to refer to the pair of surfaces from the second correcting element. Further, according to Figures 3-4, at a minimum, two surfaces, and not one surface, must be reprocessed for the creation of local thickness variations.

Claims 22-26 are dependent on Claim 14, and hence inherit the deficiencies of Claim 14.

### ***Claim Rejections - 35 USC § 102***

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –



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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 14, 22-26, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Fürter et al. (U.S. Patent No. 6252712), of record.

Fürter et al. discloses a correcting device (See for example 21a, 21b, 23a, 23b in Figure 1) to compensate for perturbations of the polarization distribution over the cross section of a light beam (See for example 12 in Figure 1) in an optical system (See Figure 1), comprising a correcting member (See for example 21a, 21b in Figure 1; col. 2, lines 51-59; col. 2, line 66-col. 3, line 14) which comprises a first birefringent correcting element (See for example 21a in Figure 1) having two substantially parallel first surfaces and a substantially constant first thickness in a direction perpendicular to the first surfaces, a second birefringent correcting element (See for example 21b in Figure 1) having two substantially parallel second surfaces and a substantially constant second thickness in a direction perpendicular to the second surfaces, wherein at least one of the first and second surfaces is reprocessed (See for example 21a, 21b in Figure 1; col. 2, lines 51-59; col. 2, line 66-col. 3, line 14) so as to create local thickness variations  $\Delta d$  by which the perturbations of the polarization distribution are compensated at least approximately, and wherein the arrangement, the first and second thicknesses and birefringence properties of the first and second correcting element are selected so that their birefringent effects cancel each other out when the local thickness variations  $\Delta d$  are neglected (See for example 21a, 21b in Figure 1; col. 2, lines 51-59; col. 2, line 66-col. 3, line 14). Fürter et al. additionally discloses a projection objective (See for example 11, 17, 10, 21a, 21b, 23a, 23b, 16, 13, 22, 15, 14, 1 in Figure 1) for a microlithographic

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exposure apparatus (See Figure 1), comprising the correcting device as set forth above (See for example 21a, 21b, 23a, 23b in Figure 1); the correcting device is arranged at least approximately in a pupil plane of the projection objective (See for example 21a, 21b, 23a, 23b, which is located in a collimated portion of the incident light beam 12 in Figure 1); the correcting device is arranged in immediate vicinity of an imaging mirror, which is contained in a catadioptric part of the projection objective (See for example 21a, 21b, 23a, 23b, 16 in Figure 1); the correcting device which is arranged at least approximately in a field plane of the projection objective (See for example 21a, 21b, 23a, 23b, which is located in a collimated portion of the incident light beam 12 in Figure 1), wherein the correcting device is as set forth above (See for example 21a, 21b, 23a, 23b in Figure 1).

15. Claims 14, 22, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Chun et al. (U.S. Patent No. 4643534).

Chun et al. discloses a correcting device (See for example Figure 1) to compensate for perturbations of the polarization distribution over the cross section of a light beam in an optical system (See for example Abstract; Figures 1-3, 8), comprising a correcting member (See for example 12, 14 in Figure 1A; col. 4, lines 18-50; col. 5, line 8-col. 6, line 19) which comprises a first birefringent correcting element (See for example 12 in Figure 1A) having two substantially parallel first surfaces and a substantially constant first thickness in a direction perpendicular to the first surfaces, a second birefringent correcting element (See for example 14 in Figure 1A) having two substantially parallel second surfaces and a substantially constant second thickness in a direction perpendicular

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to the second surfaces, wherein at least one of the first and second surfaces is reprocessed (See for example 15, 16 in Figure 1A; col. 4, lines 18-50; col. 5, line 8-col. 6, line 19) so as to create local thickness variations  $\Delta d$  by which the perturbations of the polarization distribution are compensated at least approximately, and wherein the arrangement, the first and second thicknesses and birefringence properties of the first and second correcting element are selected so that their birefringent effects cancel each other out when the local thickness variations  $\Delta d$  are neglected (See for example 12, 14 in Figure 1A; col. 4, lines 18-50; col. 5, line 8-col. 6, line 19). Chun et al. additionally discloses a projection objective (See for example Figures 1-3, 8) for a microlithographic exposure apparatus (See for example Figures 1-3, 8), comprising the correcting device as set forth above (See for example 12, 14 in Figure 1A; col. 4, lines 18-50; col. 5, line 8-col. 6, line 19).

### ***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 10:00 AM - 6:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias  
Primary Examiner  
Group Art Unit 2872  
6/11/09

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